INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

25X1

COUNTRY Hungary

REPORT

SUBJECT

DATE DISTR. 30 JUL 1957

25X1

Vörös Csillag Traktorgyar (Red Star Tractor Factory), Budapest

NO. PAGES 1

REQUIREMENT NO. RD

PROCESSING

DATE OF INFO.

REFERENCES 25X1

PLACE & DATE ACQ. 25X1

SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

report concerning the Vörös Csillag Traktorgyar (Red Star Tractor Factory) in Budapest. The report gives information on production, labor force, facilities and machinery, tools and instruments, quality and quality control, rate of rejects, stamps and markings used, bottlenecks, and locations of various buildings, sections, and installations of the factory, including a sketch which is keyed to an explanatory legend. The report also gives information on contract work done by the factory which was believed to be armament production for shipment to confidential destinations.

25X1

25X1

S-E-C-R-E-T

STATE	X ARMY	X NAVY	X AIR	X FBI	AEC					

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

INFORMATION REPORT INFORMATION REPORT

SECRET

SECRET

~~HUNGARY~~

~~ECONOMIC~~

25X1

~~Red Star Tractor Factory~~

1. Title and General Data.

Official name: Vörös Csillag Traktorgyar (Red Star Tractor Factory)

Former Title: Hofherr-Schrantz-Clayton-Shuttleworth

Address: 3/15 Hofherr Albert-utca, Budapest XIX.

Abbreviated name: "VCST", colloquially known as: "Vöcsi"

25X1

2. Production.

(a) Range of products:

(i) G35 tractor on iron wheels, powered by 25 h.p. glow-bulb Csepel engine.

(ii) Standard GS-35 tractor on iron or rubber tyred wheels, powered by 25 h.p. Csepel-Diesel engine

(iii) SL-50/55 tracked tractor (not continuously in production)

(iv) DT-413 tracked tractor, powered by 50 h.p. Csepel-Diesel engine.

(v) Potato-hoeing machine (self-propelled) 25X1

(vi)

(vii) F1 (and F3) coal cutter (production suspended in 1955)

(viii) 25X1

(ix) Parts and components for tractors and agricultural machinery

(x) Links and pins for caterpillar tracks of tractors and larger sizes of links and pins for unknown types of vehicles, possibly AFV

(xi) Nuts and bolts of many ranges

(xii) Subcontract jobs of all kinds, the most important of which are:- 25X1

SECRET

SECRET CONTROL
U. S. OFFICIAL

(a) Gears of 120 mm. diametre and over

(b) Forging of shafts and other forging jobs requiring high degree of precision.

(Xiii) Certain consumer goods, such as kitchen utensils and others. (These lines were undertakne with a view to utilising the material from rejects)

(b) Capacity and rate of production.

	Estimated capacity p.a.	Production 1955 (estimate)	Planned 1956 (estimate)
Small tractors (G35, GS-35 & spare parts for same)	11,000	11,000	7,000 (a)
SL-50/55 tractors	2,000	500(b)	
DT-413 tracked tractors of 50 h.p.	1,000	Production in preparation	Not known
[redacted]			
Coal cutters	500	Production was discontinued in 1955	
Spares for coal cutters		small quantities were being produced	
Potato hoeing machines	2,000	A trial series was produced	?
Wheels [redacted]	50,000	72,000(c)	?
Gears for other concerns		240,000	

25X1

25X1

(a) The quantity of small tractors was to be reduced in order to provide more capacity for other products, particularly the DT-413 tracked tractor.

SECRET CONTROL
U. S. OFFICIALS ONLY

Page 3....

(b) These 500 tractors were the tail end of an order for China. It was questionable whether this type would be produced in the future, as further orders from China were uncertain.

(c) This relatively large volume of production could only be got by working 10-hour shifts and by working on Sundays.

3. Destination of products.

(a) Exports.

The only large export commitment in 1955 was the delivery of 500 SL-50/55 tractors for China.

All other exports were small trial orders [redacted] 25X1

[redacted] to many countries, among which were 25X1

China, the U.S.S.R., Albania, Bulgaria [redacted] 25X1

[redacted]

(b) Domestic destinations (civil).

(i) Tractors were supplies to agricultural tractor stations, state farms and collective farms. 25X1

(ii) [redacted] supplies to building concerns, mines and others. 25X1

(iii) [redacted] wheels were supplied to the Csepel Automobile Works.

(iv) Screws, bolts, nuts, washers, etc. were supplied to a number of larger concerns [redacted] 25X1

[redacted]

(v) Gears, forgings, assemblies and components of machinery requiring high precision characteristics were supplied to a large number of Hungarian engineering concerns, chiefly in cases where they had not themselves the types of machine-tools for producing those parts.

(c) Clandestine destinations.

Officially this plant was not engaged on armaments orders. In practice, however, there was a large volume of contract work which could hardly have been anything but that. This was patent from the security measures by which the nature of these products and their

destinations were concealed. Moreover many of the parts and assemblies were of types and sizes for which there was obviously no civil demand in Hungary.

The identities of most of the customers were not known to the workers in the shops. One of the few exceptions was that of the Mezogazdasagi Gepek Kutato Intezet (Research Institute for Agricultural Machines). This institute supplied drawings and specifications of components alledgedly needed for building prototypes of agricultural machines. They included all kinds of gears, gear and shaft assemblies, links and pins of heavy caterpillar tracks of elaborate design and many others. Very large sprocket wheels, with diametres of more than 700 mm. and weighing 35 Kg. each were machines and finished in large quantities. In general the series of individual parts were seldom less than 100 units. Sometimes the orders called for up to 500 units. Comments were heard from the engineering staff in which it was asserted that these orders could not be for prototypes of agricultural machines and that they could only apply to components of tanks, guns, self-propelled weapons and other armaments.

Inspite of security precautions the identities of some of the concerns with whom transactions were made became known. They included the DIMAVAG Engineering Works of Diosgyor, who were supplied with precision forgings, the Spare Parts Factory of Gyongyos, a secret factory at Eger and others. There were also continuous transactions with the Ozd Metallurgical Works.

4. POWER.

All power used was electrical, which was supplied from the city mains.

The factory also possessed a small generating plant of its own. It was operated only when the supply from the grid was insufficient. But its capacity was no more than perhaps 10% of the plant's requirements.

-/Page 5....

4. Labour.

(a) The total number of employees was about 4,900 of whom about 25% were women.

(b) The proportion of direct/productive personnel may be judged from the following approximate figures:-

	Direct productive	Indirect productive
Executive and other personnel with academic background		35
Staff with secondary school education		150
Foremen		100
Quality control inspectors		250
Office staff		300
Auxiliary personnel		170
Skilled manual labour	2,500	
Unskilled labour	1,000	
Casual labour and apprentices	400	
Total:	3,900	1,005

(c) The staff in the designing office consisted of about 30 employees.

(d) The number of shifts and the total number of working hours depended largely on the period of the month:-

(i) From 1st to about 20th of the month

Work in the machining shops was generally in three 8-hour shifts on 6 days per week. The night shifts were with a strength reduced to about 60%. The efficiency was not more than about 30% of a day shift.

In the assembly shops work was in two 8-hour shifts and in the maintenance shops and certain servicing departments (welding, etc.) in one 8-hour shift per day, also on 6 days per week.

Page 6....

(ii) Last 10 days of the month (Shock-working).

The number of shifts in most of the shops was increased and continued over Sunday. Moreover, the manpower strength of shifts was greatly increased, so much so that many workers did up to 48 hours work in overtime alone.

6. Plant and machinery.

(a) The equipment and facilities available in 1955 are roughly listed and the serviceability of machine-tools evaluated in the following table:-

Item number on sketch	Plant and machinery	Serviceability (rating per cent)
1.	Two ponds from which water is drawn by Diesel-powered pumps for the boiler house	
7	Gas generator plant supplying own furnances as well as the nearby Lirinc Rolling Mill	
8	Iron Foundry: 2 cupola furnaces, large cap. 7 cupola furnaces, medium cap. ca 10 travelling cranes.	
9	Steel foundry: 2 Electric furnaces of medium capacity 4 travelling cranes	
12	Tractor assembly (about 70 by 25m): ca 10 sundry metal working machine 2 large capacity travelling cranes ca 10 smaller cranes	70% No conveyor belt system
13	Tractor section machining shop: (Concrete structure (ca 150 x 50m) ca 20 Large boring machines of Hungarian & East German makes ca 10 Small drilling machines, capacity up to 5 mm. diametre ca 15 Milling machines (medium size) 6 Long planers, overall length about5-7 m., width of table 1.5 m. ca 10 Grinders (good condition) ca 20 Centre lathes ca 25 Turret lathes 2 Travelling cranes 6 Smaller cranes (There is no automation of any kind in this shop)	Newly completed building. 60% 90% 50% 90% (New machines) 90% about 60% about 60%

-/Page 7....

6. Plant and machinery continued

Item number on sketch	Plant and machinery	Serviceability
16	Bomb-proof shelter A large above-ground personnel concrete shelter, completed in May 1955. [redacted] Contains no shops. Not in use.	25X1
17	Drying shop for tractors: Infra-red lamp tunnel for drying. Space for tuning and preparing tractors for tests. Several bays for welding	
18	Gear cutting shop: ca 15 Gear cutters for large sizes (out-dated types) ca 5 Gear cutters for large sizes (modern types) ca 20 Gear cutters for small and medium work, in fairly good condition ca 6 Shaping machines for gear cutting (old and outmoded)	70% 90% 60% 30%
20	Sundry workshops: This group of shops and other facilities contains a plate working shop, soldering shop, electrical fitting shop, general maintenance shop, carpenters and others, also the works canteen and offices. There are some 20-25 machine tools of all kinds	
21	So-called No.X Machining shop: (Large old hall used for production [redacted] and other departments) 10 RF-2 Radial boring machines 5 RF-3 Large boring machines 8 Small drilling machines 2 Horizontal boring and milling machines for large jobs (new and up-to-date) 2 Vertical mills for large jobs 1 Planer 1 Planer 1 Planer 2 Millers for profile-cutting 6 Gear cutters of [redacted] automatic machines, but old types	25X1 80% 80% 60% 90% 70% 90% 60% 40% 50% 25X1 80%

-/Page 8....

6. Plant and machinery continued

Item number on sketch	Plant and machinery	Serviceability	25X1
21 contd.	2 Gear grinders [redacted] precision machines	100%	
	2 Gear polishing machines of East German make, producing high precision work	80%	
	2 Gear polishing machines	60%	
	1 Inside gear cutter	70%	
	1 Inside gear cutter	50%	
	8 Grinders	90%	
	4 Medium milling machines	70%	
	2 Medium shapers	50%	
	4 Type EU Medium copying lathes	60%	
	2 "Wolman" precision lathes	50%	
	3 "Böringer" turret lathes	50%	
	3 "Dimavag" centre lathes for large jobs	40%	
	1 RH-100 Lathe	50%	
	2 RH-100 Lathes	30%	
	2 Automatic copying lathes, [redacted] used for high-precision shafts, (These units were not allowed to operate continuously for longer than 8 hours)	100%	25X1
	4 "Magdeburg" turret lathes for large jobs (outmoded)	40%	
	ca 10 Lathes for small work (old)	40%	
	6 Automatic lathes with hydraulic chucks, made in Magdeburg, East Germany (Of these machines the engineer in charge said: "These machines are not economical for civil production, only for armaments" (sic!) Three units were still in their packing cases. Three others were being used for training personnel to operate them)	100%	
	[redacted] assembly hall:		25X1
	? Travelling cranes		
	(No automation of any kind)		
	Painters' shop:		
	9 Spray guns		
27	New shops under construction:		
	This was nearing completion in 1955. Machinery was being fitted No information about the future use.		

SECRET CONTROL
U.S. OFFICIALS ONLY

Page 9....

6. Plant and machinery continued

25X1

Item number on sketch	Plant and machinery	Serviceability
28	Old machining shop (&spares):	
	ca 60 metal working machine-tools of all kinds, outmoded typres and in bad condition	
33	(So-called No. XII shop):	
	(a) Bolts & nuts plant:	
	ca 50 Small lathes of many types, mainly of Skoda make. A minor portion of the machine-tools were authomatic)	70%
	(b) Small forge:	
	1 Cupola furnace (60 cu.m.)	
	2 Steam hammers	old
	(c) Stamping shop:	
	2 Cupola furnaces	
	ca 9 Presses (old)	50%
	2 Stamping machines (new)	70%
	ca 50 Lathes, large and small, in poor condition, used for training apprentices	40%
	(d) Metal cutting shop:	
	ca 30 shears and saws, old and worn	
38	Steel cleaning shop: (new hall)	
	ca 10 Sand blast apparatus	
	ca 15 Sand blast guns (manual)	
	ca 15 Large lathes (old)	
	ca 10 Welding machines	
	various grinders, etc.	

-/Page 10....

No [redacted]

(b) Vital tools lacking.

(i) The number of grinding machines was insufficient. To offset this, work with grinders had extended to Sundays.

(ii) The available domestic grinding wheels supplied by the GRANIT plant were unsatisfactory in quality and it was necessary to resort to the use of Swiss-made material. This, however, was always in short supply.

(iii) In winter it was impossible to obtain the required temperature, at which the [redacted] cutting machines produce the precise measurements. This caused an excessive reject rate. 25X1

(iv) Among tools there was a lack of fine reamers, fine twist-drills, screw taps and others.

(c) Instruments, gauges, etc.

(i) Of the available manual measuring instruments an estimated 70% were lacking in precision.

(ii) The quantity of such tools was quite insufficient. The greatest shortage was in micrometer screws and internal limit gauges. Shops were often held up for lack of measuring tools and it happened that a shop would be idle while waiting to get such instruments from one of the other shops. At times instruments had even to be borrowed from other concerns.

(iii) There were three laboratories for measuring quantity and quality and for checking the correctness of measuring tools. They were well equipped with up-to-date apparatus of all kinds.

-/Page 11....

(d) Mechanical handling equipment.

Apart from a limited number of cranes (listed in para. 6/a) and electric fork trucks, there is no mechanical handling equipment. The factory possesses no kind of transfer machinery or conveyor system. Work in the assembly halls proceeds in such manner that all the components are brought to the assembly bays by push cart or electric fork truck.

7. Quality and quantity control.

(a) Quality control inspectors. 25X1

The works quality control [redacted] has a strength of at least 250 inspectors. They carry out the following checks:

(i) The so-called "running inspector" controls the first specimen leaving a machine-tool and again other later specimens, say, every 50th out of 200, if they are of small size, or every 4th or 5th, if the parts in question are of larger size.

(ii) The so-called "inter-operational inspection is made after completion of one operation and before the subsequent operation. The specimens found to be of reject quality are marked with red oil paint.

(iii) After final completion of the product (tractor, [redacted] larger assembly, etc.) it is inspected 25X1 by the central section of the quality control [redacted] If accepted it is stamped with 25X1 the central inspector's number and marked with the concern's trade mark. The trade marks are either "VOST" framed with a stylized star if the

-/Page 12....

25X1

25X1

Next 2 Page(s) In Document Denied

(i) Lack of raw materials, coal or coke.

(ii) Late arrival of semi-finished products from contracting concerns.

(iii) Excessive reject rate in castings.

(iv) Power cuts.

(v) Reject caused by faulty designing.

(b) Serious bottlenecks could be artificially and deliberately caused by the following means:

(i) Damage to the gear cutting shop, the so-called No. X machining shop, (No. 21 in para. 10 and in sketch of plant). This shop contains all the machine-tools which produce the high precision work. The machine-tools outside this shop are insignificant as far as precision working is concerned. [redacted] the elimination of this shop would cripple the whole plant for about 6 months. 25X1

(ii) Damage to the designing office and the elimination of the design archives in building No. 32 (see sketch and para. 10) would severely hinder the operation of the plant).

10. Disposition of buildings and plant.

Legend to attached sketch.

1. Fence consisting of paling about 2.7 m. high. At some point there are walls of buildings.

2. Railway spurs belonging to the plant.

3./a Main entrance for pedestrians and vehicles.

3./b Other gates (not always in use).

4. Two ponds (fitted with Diesel-powered pumps for supplying water to the boiler house).

5. Water tower.

-/Page 16....

6. Dwelling houses.

7. Gas generator plant.

8. Iron foundry.

9. Steel foundry.

10. Dump for iron and steel, non-ferrous metals and coke.

11. Newly constructed store for spare parts, tyres, wires, etc. (Known as "general warehouse").

12. Assembly hall for tractors (about 70 by 25 m.)

13. Tractor machining shop (new building, about 150 by 50 m).

14. Semi-finished components store. 25X1

15. Open parking space for completed tractors [redacted]

16. New shelter for personnel, completed in May 1955.

17. Drying of tractors in infra-red tunnel and shop where new tractors are prepared and tuned before test running. This building also contains several welding shops.

18. Gear-cutting shop; measuring shop for quality control.

19. Transformers, switching station, boiler rooms and 2 smoke stacks. 25X1

20. Plate working shop, soldering shop, tinsmith shop; [redacted] works canteen; electrical fitting shop; leatherworking shop; maintenance shop (for whole plant); carpenter's shop.

(Note: No. 20 is not a single building, but a group of buildings each of which is close up to its neighbour).

25X1

21. Machine shop [redacted] assembly hall; painting shop; quality control offices; electro-plating shop; quality control measuring, etc.

22. Dispatch of outgoing goods, loading of wagons, etc.

23. Works fire brigade and fuel dump (open air storage in drums).

24. Garage and small fuel store.

25. Apprentices school.

26. Creche.

-/Page 17....

25X1

27. New workshops under construction and at a 70% stage of completion in 1955. [redacted]

28. Old machining shop and spares store.

29. Offices (accounts dept., bookkeeping, finance dept., purchasing dept., stocks accounting, etc.)

30. Offices; maintenance shops; coal stores; on or near this building there is also a smoke stack.

31. Offices; Party office; trade union HQ; wages dept., labour matters; engagement of personnel; "discipline dept."; sports office, etc; smithies; annealing shops.

32. Main administration building; Director's office; Secretariat, Chief Engineer; cost accounting; designing offices, technical drawings, catalogues and archives; stencil duplicating and photo-copying dept.

33. Bolts and nuts production shop; forging and welding shops; hot-stamping shop; machine shops employing and training apprentices; metal saws shop; iron and steel deposit.

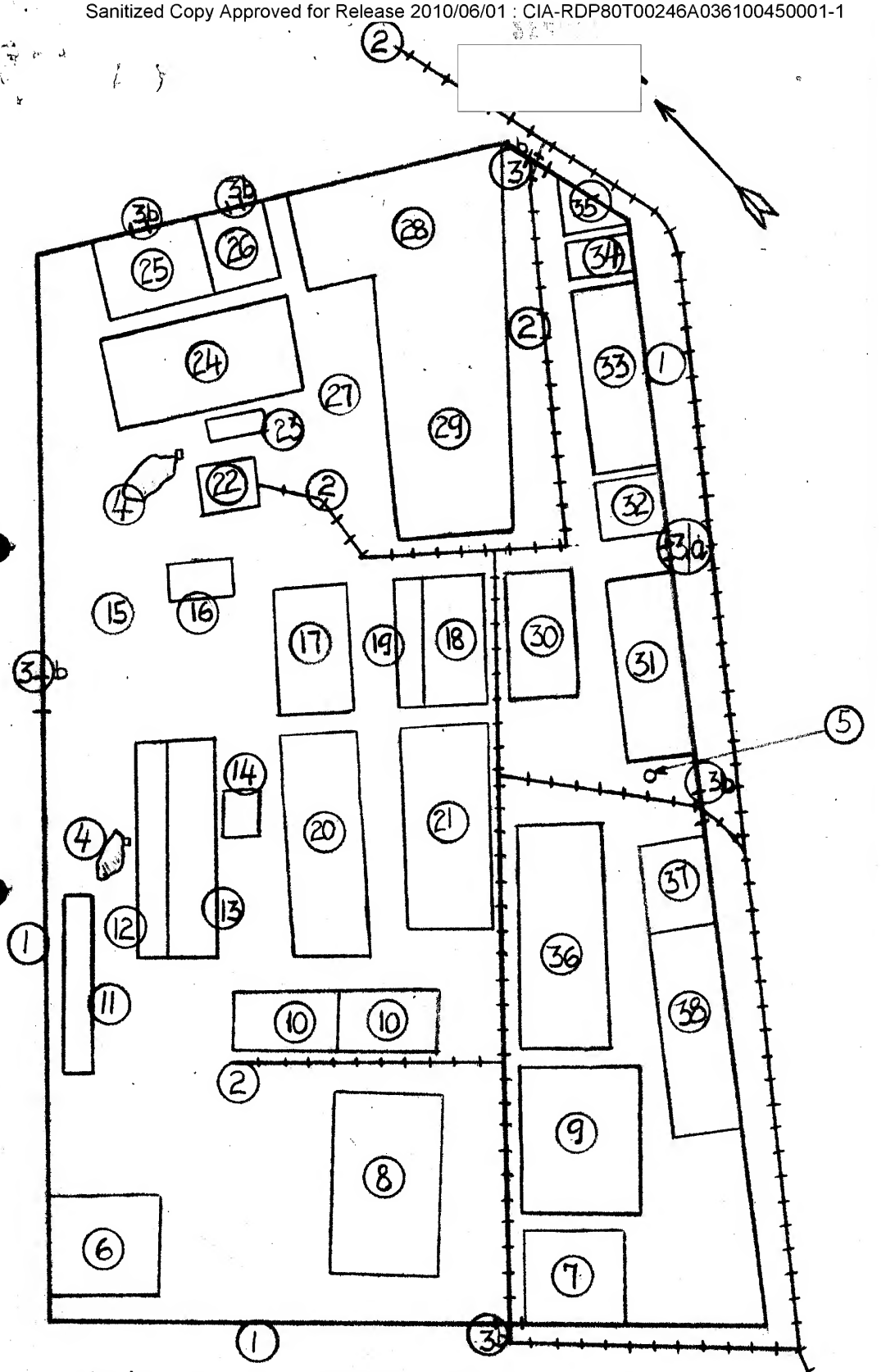
34. Surgery.

35. Offices used by tractor designing department.

36. Various warehouses; boilers.

37. Offices of power administration; clubs; library.

38. Shop for cleaning steel castings.



VÖRÖS CSILLAG TRAKTORGYÁR.

RED STAR TRACTOR FACTORY.

(FORMERLY: HOFHERR-SCHRANTZ-CLAYTON-SHUTTLEWORTH)

BUDAPEST.